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**REMARKS**

In view of the following discussion, the Applicants submit that none of the claims now pending in the application is anticipated under the provisions of 35 U.S.C. § 102 or indefinite under the provisions of 35 U.S.C. § 112. Thus, the Applicants believe that all of these claims are now in allowable form.

**I. OBJECTION OF CLAIMS 5-7, 15 AND 17**

Applicants acknowledge and expresses their appreciation for the indication in Paragraph 5 of the Office Action that claims 5-7, 15 and 17 contain allowable subject matter, "if rewritten in independent form including all of the limitations of the base claim and any intervening claims".

Responsive to the Examiner's objections to claims 5-7, 15 and 17, Applicants respectfully request reconsideration of the Examiner's determination that these dependent claims depend upon a rejected base claim for the reasons set forth below.

It is respectfully submitted that Applicants' explanation below, place claims 5-7, 15 and 17 in condition for allowance. Thus, the Applicants believe that all of these claims are now in allowable form.

**II. REJECTION OF CLAIMS 10 AND 16 UNDER 35 U.S.C. § 112, SECOND PARAGRAPH**

The Examiner rejected claims 10 and 16 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner noted that these claims appear to have erroneous dependency.

Responsive to the Examiner, Applicants have amended claims 10 and 16. Specifically, claim 10 has been amended to depend from claim 9 and claim 16 has been amended to depend from claim 15. These claims now have proper dependency and are amended to address typographical errors in the original claims.

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**III. OBJECTION OF CLAIMS 6-7 AND 16-17 FOR MINOR INFORMALITY**

The Examiner noted that claims 6-7 and 16-17 are missing a period at the end of the claim. Responsive to the Examiner, Applicants have amended claims 6-7 and 16-17 to add the missing period.

**IV. REJECTION OF CLAIMS 1-4, 8-14 AND 18 UNDER 35 U.S.C. § 102****A. Claims 1-4, 8-14 and 18**

The Examiner has rejected claims 1-4, 8-14 and 18 in Paragraph 3 of the Office Action as being anticipated by the Brill patent (US patent 6,542,621, issued on April 1, 2003). The Applicants respectfully disagree.

The Examiner's use of Brill as a prior art reference against Applicants' invention is improper. More specifically, Applicants' patent application claims priority to a priority date of July 14, 1999, whereas the Brill reference has a filing date of August 31, 1999. Thus, the Brill reference is not prior art as applied to Applicants' patent application.

Furthermore, if the Examiner attempts to apply the provisional application of Brill against the Applicants, then the Examiner must provide a copy of the provisional application and cite within the provisional application the premise of the rejection. In other words, the Brill patent is technically a different reference than the Brill provisional application.

Thus, Applicants submit that claims 1-4, 8-14 and 18 are not anticipated by the Brill reference and are allowable.

**B. Claims 1, 9 and 11**

The Examiner appears to reject claims 1, 9 and 11 in Paragraph 4 of the Office Action as being anticipated by the Cox reference (An Efficient Implementation Of Reid's Multiple Hypothesis Tracking Algorithm And Its Evaluation For The Purpose Of Visual Tracking) or the Reid reference (An Algorithm For Tracking Multiple Targets). The

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Applicants respectfully disagree.

First, Applicants do not concede that the Cox reference and the Reid reference are "prior art" against Applicants' invention. Applicants simply submitted these references in an IDS.

Reid teaches an algorithm for tracking multiple targets. Specifically, it teaches a method for calculating the probabilities of various data-association hypotheses.

Cox teaches a multiple hypothesis tracking algorithm. Specifically, it teaches an algorithm in which the k-best hypotheses are determined in polynomial time.

The Examiner's attention is directed to the fact that both Reid and Cox fail to disclose or suggest Applicants' novel invention, as claimed in Applicants' independent claims 1, 9 and 11. Specifically, Applicants' independent claims positively recite:

1. A method for tracking multiple objects in a video sequence comprising:  
selecting an initial configuration comprising a plurality of objects;  
predicting a current configuration; and  
computing a likelihood for the current configuration.
9. A method of producing probability distributions of states for multiple objects in a video sequence comprising:  
performing hierarchical sampling of at least one frame of video in said video sequence, wherein said sampling is performed in an object configuration and individual object states; and  
repeating said sampling for each frame of video in said video sequence to track objects within the video sequence.
11. A computer readable medium containing a program that, when executed by a processor, causes an image processing system to perform a method comprising:  
selecting an initial configuration comprising a plurality of objects;  
predicting a current configuration; and  
computing a likelihood for the current configuration.

In one embodiment, Applicants' invention is directed to a method and apparatus for tracking multiple objects in a video sequence. The method defines a group of objects as a configuration, selects and predicts a configuration for a current video frame, and computes the likelihood of the configuration. Using this method in an iterative manner

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on a sequence of frames, the present invention tracks the object group through the sequence.

The Examiner appears to be applying Reid and Cox against Applicants' invention, but fails to specifically cite within each of the references as to each and every elements of Applicants' independent claims 1, 9, and 11. The Examiner simply broadly states that these two references "are both applicable as 102(b) references to claims 1, 9 and 11". Namely, the Examiner has failed to provide supports for the present rejection. It is respectfully requested that the Examiner cites specific sections within each reference that disclose each and every elements of Applicants' independent claims 1, 9, and 11 in the next Office Action.

Therefore, the Applicants submits that claims 1, 9 and 11, as they now stand, fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder.


#### Conclusion

Thus, the Applicants submit that all of these claims now fully satisfy the requirements of 35 U.S.C. §102 and 35 U.S.C. §112. Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

9/22/03

  
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